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| EXAMINER | |
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| VU, THAI | |

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Please find below and/or attached an Office communication concerning this application or proceeding.



4

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/966,466 | SOINTULA ET AL. | |
| | Examiner | Art Unit | |
| | Thai Vu | 2643 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-39 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-39 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 21 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimata (US-2002/0032039 A1, filed 09-06-2001, hereinafter Kimata).

Regarding claim 21, Kimata teaches the following:

a mobile station having a transmitter operating on one of a plurality of frequency channels in a first RF frequency band (claim 1, Abstract);

an associated local area communication subsystem operating by frequency hopping amongst a plurality of channels in a second RF frequency band (claim 1, Abstract, page 1 paragraph [0004]);

a controller for inhibiting transmission of data in the local area communication subsystem when a hopped-to frequency is determined to be a frequency that may be interfered with because of operation of the mobile station transmitter on a currently specified frequency channel in the first frequency band (claim 5).

Regarding claim 31, Kimata teaches a method of controlling RF interference in a communication system having more than one RF transceiver including:

preparing to operate a mobile station transmitter on one of a plurality of frequency channels in a first RF frequency band (claim 19);

determining if a harmonic of the frequency channel to be operated has the potential to interfere with communications within an associated local area communication subsystem that operates by frequency hopping amongst a plurality of channels in a second RF frequency band (claim 19);

inhibiting transmission of data on at least one of said plurality of channels, when hopping to the at least one of said plurality of channels, so as to avoid the interference (claim 20).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 12-13, 15-20, 22-26, 28, 30, 33-36, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Mansfield (PAT 6,704,346 B1 filed 03-16-2000, hereinafter Mansfield).

Regarding claim 1, Kimata teaches the following: A communication system, comprising:

a mobile station having a transmitter operating on one of a plurality of frequency channels in a first RF frequency band (claim 1, Abstract);

an associated local area communication subsystem operating by frequency hopping amongst a plurality of channels in a second RF frequency band (claim 1, Abstract, page 1 paragraph [0002]);

Kimata does not teach the following: a controller for altering a frequency hopping pattern of said local area communication subsystem as a function of a currently specified frequency channel in the first frequency band.

However Mansfield teaches a frequency controlling system which enables a frequency hopping transceiver to operate without interfering another transceiver operating in the same or nearby frequency band by controlling the hopping channels which teaches the following: a controller for altering a frequency hopping pattern of said local area communication subsystem as a function of a currently specified frequency channel in the first frequency band (Fig. 5, column 7 lines 47-55, column 3 lines 27-39 and claim 1).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata's system to provide the following: a frequency controlling system as a function of interference signal frequency in order to control the hopping as the arrangement would prevent the frequency-hopping transceiver from using frequencies having interference, thus a communication system can have at least 2 transceiver as taught by Mansfield (Abstract).

Regarding claim 2, Kimata does not teach the following: the frequency hopping pattern is altered if the currently specified frequency channel is one having a known frequency or frequency component that lies in the second frequency band.

However Mansfield teaches his invention prevents a frequency hopping transceiver from using frequencies having interference present thereon which teaches the following: the frequency hopping pattern is altered if the specified frequency channel is one having a known frequency or frequency component that lies in the second frequency band (column 4, lines 30-32).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata's system to provide the following: the frequency hopping pattern is altered if another frequency or frequency component is known to lie in the frequency band of the frequency-hopping transceiver, as the arrangement would prevent the frequency-hopping transceiver from using frequencies having interference, thus a communication system can have at least 2 transceivers as taught by Mansfield (Abstract).

Regarding claim 3, Kimata teaches the following: the first frequency band is in the range of about 800MHz to about 900MHz, and wherein the second frequency band is in the range of about 2400MHz to about 2500MHz (page 1 paragraph [0004]).

Regarding claim 4, Kimata teaches the following: the first frequency band is in the range of about 824MHz to about 891MHz (page 2 paragraph [0029]), and wherein frequency hops occur at 2402+k MHz, where k= 0,1,...,78 [reads on

frequency band of 2.4 GHz using 79 channels for a 1Mhz band] (page 1 paragraph [0002])

Regarding claim 5, Kimata does not teach the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels.

However Mansfield teaches a channel frequency black list table containing frequencies that must not be used which teaches the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels (FIG. 5 box 36; column 7 lines 53-55).

Regarding claim 6, Kimata does not teach the following: the frequency hopping pattern is altered by selecting another channel if an excluded at least one of said plurality of channels is selected to be hopped to.

However Mansfield teaches a skipping of channel frequencies which teaches the following: the frequency hopping pattern is altered by selecting another channel if an excluded at least one of said plurality of channels is selected to be hopped to (column 7, lines 27-33).

Thus, it would have been obvious to on of ordinary skill in the art at the time invention was made to modify Kimata to provide the following: excluding at least one of the frequency channels and select another channel as the arrangement would prevent the frequency-hopping system from using channels a having interference thus improves interference characteristics, as taught by Mansfield.

Regarding claim 12, Kimata does not teach the frequency hopping pattern is altered by selecting another channel if an excluded at least one of said plurality of channels is selected to be hopped to

However Mansfield teaches a skipping of channel frequencies which teaches the following: the frequency hopping pattern is altered by selecting another channel if an excluded at least one of said plurality of channels is selected to be hopped to (column 7, lines 27-33).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to provide the following: the frequency hopping pattern is altered by selecting another channel thus the arrangement would improve the frequency hopping scheme but does not violate its requirement, as taught by Mansfield.

Regarding claim 13, Kimata teaches a method of controlling RF interference in a communication system having more than one RF transceiver including:

preparing to operate a mobile station transmitter on one frequency channels in a first RF frequency band (claim 19);

determining if a harmonic of the frequency channel to be operated has the potential to interfere with communications within an associated local area communication subsystem that operates by frequency hopping amongst a plurality of channels in a second RF frequency band (claim 19);

Kimata does not teach altering a frequency hopping pattern of the local area communication subsystem so as to avoid the interference.

However Mansfield teaches a method of controlling frequency to prevent RF interference which teaches the following: a controller for altering a frequency hopping pattern of said local area communication subsystem as a function of a currently specified frequency channel in the first frequency band (Fig. 5, column 7 lines 47-55).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Mansfield method to provide the following step: altering a frequency hopping pattern as the arrangement would prevent the frequency-hopping transceiver from using frequencies having interference, thus the system can have at least a pair of transceivers as taught by Mansfield.

Regarding claim 15, Kimata does not teach the frequency hopping pattern is altered if the frequency channel to be operated on is one having a harmonic frequency that lies in the second frequency band.

However Mansfield teaches his system skipping channels that have interference with other frequency band which teaches the following: the frequency hopping pattern is altered if the specified frequency channel is one having a known frequency or frequency component that lies in the second frequency band (column 7, lines 27-33).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata to provide the following: hopping frequency pattern is altered when an interference is detected as the arrangement would prevent the frequency-hopping system from using channels a having interference thus improves interference characteristics, as taught by Mansfield.

Regarding claim 16, Kimata teaches the following: the first frequency band is in the range of about 800MHz to about 900MHz, and wherein the second frequency band is in the range of about 2400MHz to about 2500MHz (page 1 paragraph [0004]).

Regarding claim 17, Kimata teaches the following: the first frequency band is in the range of about 824MHz to about 891MHz (page 2 paragraph [0029]), and wherein frequency hops occur at 2402+k MHz, where k= 0,1,...,78 [reads on frequency band of 2.4 GHz using 79 channels for a 1Mhz band] (page 1 paragraph [0002]).

Regarding claim 18, Kimata does not teach the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels.

However Mansfield teaches a method of excluding channels having interference which are stored in a table which teaches the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels (FIG. 5 box 36; column 7 lines 51-55).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kimata method to provide the following: the frequency hopping pattern is altered by excluding channels as the arrangement would prevent the frequency-hopping system from using channels having interference thus improves interference characteristics, as taught by Mansfield.

Regarding claim 19, Kimata does not teach the following: the frequency hopping pattern is altered by selecting another channel if an excluded at least one of said plurality of channels is selected to be hopped to.

However Mansfield teaches a skipping of channels which teaches the following: the frequency hopping pattern is altered by selecting another channel if an excluded at least one of said plurality of channels is selected to be hopped to (column 7, line 27-33).

Thus it would have been obvious to one of skill in the art at the time invention was made to modify Kimata to provide the following: the frequency hopping pattern is altered by selecting another channel as the arrangement would prevent the frequency-hopping system from using channels a having interference thus improves interference characteristics, as taught by Mansfield.

Regarding claim 20, Kimata does not teach the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels if the bandwidth is about 30kHz, and excluding more than one of said plurality of channels if the bandwidth is about 5MHz.

However Mansfield teaches his method includes storing one or more frequency channels having interference in a list which teaches the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels if the bandwidth is about 30kHz, and excluding more than one of said plurality of channels if the bandwidth is about 5MHz. (FIG. 5 box 36; column 7 lines 51-55).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata method to provide the following: means to exclude one or more channels having interference as the arrangement would allow a hopping frequency transceiver to work with a wide range of other RF transceivers thus system can have at least a pair of transceiver as taught by Mansfield.

Regarding claim 22, Kimata teaches the following: the transmission is inhibited if the currently specified frequency channel is one having a known frequency or frequency component that lies in the second frequency band (claim 5).

Regarding claim 23, Kimata teaches the following: the first frequency band is in the range of about 800MHz to about 900MHz, and wherein the second frequency band is in the range of about 2400MHz to about 2500MHz (page 1 paragraph [0004]).

Regarding claim 24, Kimata teaches the following: the first frequency band is in the range of about 824MHz to about 891MHz (page 2 paragraph [0029]), and wherein frequency hops occur at 2402 + kMHz, where k= 0,1,...,78 [reads on frequency band of 2.4 GHz using 79 channels for a 1Mhz band] (page 1 paragraph [0002]).

Regarding claim 25, Kimata teaches the following: the transmission of data is inhibited by disabling an RF modulator (claim 2).

Regarding claim 26, Kimata teaches the following: the transmission of data is inhibited by disabling an RF cannier (claim 2).

Regarding claim 28, Kimata teaches the following: the transmission of data is inhibited.

Kimata does not teach the following: a function of a bandwidth of the currently specified frequency channel.

However Mansfield teaches a frequency controlling system which enables a frequency hopping transceiver to operate without interfering another transceiver operating in the same or nearby frequency band by controlling the hopping channels which teaches the following: altering a frequency hopping pattern as a function of a currently specified frequency channel in the first frequency band (Fig. 5, column 7 lines 47-55).

Thus it would have been obvious to one of ordinary in the art at the time the invention was made to modify Kimata system to provide the following: frequency controlling system for inhibiting a frequency hopping pattern as a function of frequency as the arrangement would allow the frequency hopping transceiver to work with a wide range of other frequencies thus the system can have at least a pair of transceiver as taught by Mansfield.

Regarding claim 30, Kimata does not teach the following: the transmission of data is inhibited on at least one of said plurality of channels if the bandwidth is about 30kHz, and is inhibited on more than one of said plurality of channels if the bandwidth is about 5MHz.

However Mansfield teaches a frequency controlling system with frequency black list table containing one or more frequencies having interference which must not be used which teaches the following: the transmission of data is

inhibited on at least one of said plurality of channels if the bandwidth is about 30kHz, and is inhibited on more than one of said plurality of channels if the bandwidth is about 5MHz (FIG. 5 box 36; column 7 lines 53-55).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata method to provide the following: inhibit transmission of channels having interference as the arrangement would allow a hopping frequency transceiver to work with a wide range of other RF transceivers thus system can have at least a pair of transceiver as taught by Mansfield.

Regarding claim 33, Kimata teaches the following: the transmission of data is inhibited if the hopped-to frequency channel corresponds to a harmonic frequency of the frequency channel to be operated on (claim 20).

Regarding claim 34, Kimata teaches the following: the first frequency band is in the range of about : 800MHz to about 900MHz, and wherein the second frequency band is in the range of about 2400MHz to about 2500MHz (page 1 paragraph [0004]).

Regarding claim 35, Kimata teaches the following: the first frequency band is in the range of about 824MHz to about 891MHz (page 2 paragraph [0029]), and wherein frequency hops occur at 2402+kMHz, where k= 0,1,...,78 [reads on frequency band of 2.4 GHz using 79 channels for a 1Mhz band] (page 1 paragraph [0002]).

Regarding claim 36, Kimata teaches the transmission is inhibited by at disabling the power to a transmitter which teaches the following: least one of

disabling an RF modulator, disabling an RF carrier, and transmitting bits other than bits of data (claim 2).

Regarding claim 38, Kimata does not teach the following: the transmission is inhibited on at least one of said plurality of channels if the bandwidth is about 30kHz, and is inhibited on more than one of said plurality of channels if the bandwidth is about 5MHz.

However Mansfield teaches a frequency controlling system with frequency black list table containing one or more frequencies having interference which must not be used which teaches the following: the transmission is inhibited on at least one of said plurality of channels if the bandwidth is about 30kHz, and is inhibited on more than one of said plurality of channels if the bandwidth is about 5MHz (FIG. 5 box 36; column 7 lines 53-55).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata system to provide the following: inhibiting one or more channels having interference as the arrangement would allow a hopping frequency transceiver to work with a wide range of other RF transceivers thus system can have at least a pair of transceiver as taught by Mansfield.

5. Claims 7-8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Mansfield and Schmidt (US-2003/0058830 A1 filed 09-21-2001, hereinafter Schmidt)

Regarding claim 7, Kimata teaches the following: a communication system, comprising:

a mobile station having a transmitter operating on one of a plurality of frequency channels in a first RF frequency band (claim 1, Abstract);

an associated local area communication subsystem operating by frequency hopping amongst a plurality of channels in a second RF frequency band (claim 1, Abstract, page 1 paragraph [0002]);

Kimata does not teach the following: a controller for altering a frequency hopping pattern of said local area communication subsystem as a function of a currently specified frequency channel of a currently specified frequency in the first frequency band.

However Mansfield teaches a frequency controlling system which enables a frequency hopping transceiver to operate without interfering another transceiver operating in the same or nearby frequency band by controlling the hopping channels which teaches the following: a controller for altering a frequency hopping pattern of said local area communication subsystem as a function of a currently specified frequency channel in the first frequency band (Fig. 5, column 7 lines 47-55).

Kimata does not teach the following: a controller for altering a frequency hopping pattern of said local area communication subsystem as a function of a bandwidth of a currently specified frequency in the first frequency band.

However Schmidt teaches a number of frequency channels can be computed based on known channel bandwidth (page 2 paragraph [0028]).

Thus it would have been obvious to one of ordinary in the art at the time the invention was made to modify Kimata system to provide the following:

frequency controlling system for altering a frequency hopping pattern as a function of frequency and bandwidth of the interfering signal as the arrangement would allow the frequency hopping transceiver to work with a wide range of other frequencies thus the system can have at least a pair of transceiver as taught by Mansfield.

Regarding claim 8, Kimata does not teach the following: the frequency hopping pattern is altered if the currently specified frequency channel is one having a harmonic frequency that lies in the second frequency band.

However Mansfield teaches his system skipping channels that have interference with other frequency band which teaches the following: the frequency hopping pattern is altered if the specified frequency channel is one having a known frequency or frequency component that lies in the second frequency band (column 7, lines 27-33).

Thus it would have been obvious to one of skill in the art at the time invention was made to modify Kimata's system to provide the following: a frequency controlling system in order to control the hopping pattern wherein the frequency hopping pattern is altered if another frequency or frequency component is known to lie in the frequency band of the frequency-hopping transceiver, as the arrangement would prevent the frequency-hopping transceiver from using frequencies having interference, as taught by Mansfield, thus improves interference characteristics, as taught by Mansfield

Regarding claim 11, Kimata does not teach the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels if

the bandwidth is about 30kHz, and excluding more than one of said plurality of channels if the bandwidth is about 5MHz.

However Mansfield teaches a frequency controlling system with frequency black list table containing one or more frequencies having interference which must not be used which teaches the following: the frequency hopping pattern is altered by excluding at least one of said plurality of channels if the bandwidth is about 30kHz, and excluding more than one of said plurality of channels if the bandwidth is about 5MHz (FIG. 5 box 36; column 7 lines 53-55).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata system to provide the following: means to exclude one or more channels having interference as the arrangement would allow a hopping frequency transceiver to work with a wide range of other RF transceivers thus system can have at least a pair of transceiver as taught by Mansfield.

6. Claims 9,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Mansfield and Schmidt as applied to claim 7 above, and further in view of Teo et al. (US- 2002/0118784 A1 filed 12-26-2000, hereinafter Teo).

Regarding claim 9, Kimata teaches the following: the first frequency band is in the range of about 800MHz to about 900MHz, wherein the second frequency band is in the range of about 2400MHz to about 2500MHz (page 1 paragraph [0004]).

The combination differs from claim 9 in that it does not teach the following: the bandwidth is in the range of about 30kHz to about 5Mhz.

However, Teo teaches cellular standards having channel bandwidth range of about 30 kHz to about 5 MHz (page 4 table 1).

Regarding claim 10, Kimata teaches the following: the first frequency band is in the range of about 824MHz to about 891MHz (page 2 paragraph [0029]), and wherein frequency hops occur at 2402+k MHz, where k= 0,1,...,78 [reads on frequency band of 2.4 GHz using 79 channels for a 1Mhz band] (page 1 paragraph [0002]).

The combination differs from claim 10 in that it does not teach the following: the bandwidth is in the range of about 30kHz to about 5Mhz.

However, Teo teaches cellular standards having channel bandwidth range of about 30 kHz to about 5 MHz (page 4 table 1).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination system as taught by Kimata, Mansfield and Schmidt to provide the following: cellular standard having channel bandwidth of 30 kHz to 5 MHz as the arrangement would enable the system to work with major cellular standards (AMPS, TDMA...) as taught by Teo.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Mansfield as applied to claim 13 above, and further in view of Schmidt.

The combination differs from claim 14 in that it does not teach the following: the step of determining also considers a bandwidth of the frequency channel to be operated on.

However Schmidt teaches a number of frequency channels can be computed based on known channel bandwidth (page 2 paragraph [0028]).

Thus it would have been obvious to one of skill in the art at the time invention was made to modify Kimata method to provide the following: the step of determining also considers a bandwidth of the frequency channel to be operated on as the arrangement would provide data for calculating a number of frequency channels having interference as taught by Schmidt.

8. Claims 32,39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Schmidt

Kimata does not teach: the step of determining also considers a bandwidth of the frequency channel to be operated on.

However Schmidt teaches a number of frequency channels can be computed based on known channel bandwidth (page 2 paragraph [0028]).

Thus it would have been obvious to one of skill in the art at the time invention was made to modify Kimata method to provide the following: the step of determining also considers a bandwidth of the frequency channel to be operated on as the arrangement would provide data for calculating a number of frequency channels having interference as taught by Schmidt.

Regarding claim 39, Kimata does not teach the following: the step of inhibiting includes a preliminary step of transmitting information from a local area

communications controller that is co-located with the mobile station to at least one remotely located local area communications controller, the transmitted information including information for specifying identities of one or more frequency channels of the plurality of frequency channels over which transmission of data is to be inhibited.

However Schmidt teaches the mobile station sending a de-allocation request to a base station which teaches the following: the step of inhibiting includes a preliminary step of transmitting information from a local area communications controller that is co-located with the mobile station to at least one remotely located local area communications controller, the transmitted information including information for specifying identities of one or more frequency channels of the plurality of frequency channels over which transmission of data is to be inhibited (Fig. 2B step 326 page 5; paragraph [0046]).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata's method to include the following: transmitting information, from a local area communications controller to local area communications controller, including information for specifying identities of prohibited channels, as the arrangement would keep the local area network controller informed of the channels having interference, thus connection is maintained.

9. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Mansfield as applied to claim 28 above, and further in view of Teo.

The combination differs from claim 29 in that it does not teach the following: the bandwidth is in the range of about 30kHz to about 5Mhz.

However Teo teaches cellular standards having channel bandwidth range of about 30 kHz to about 5 MHz (page 4 table 1).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify combination system as taught by Kimata and Mansfield to provide the following: cellular standard having channel bandwidth of 30 kHz to 5 MHz as the arrangement would enable the system to work with major cellular standards (AMPS, TDMA...) as taught by Teo.

10. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Teo.

Regarding claim 37, Kimata does not teach the following: the bandwidth is in the range of about 30kHz to about 5Mhz.

However, Teo teaches cellular standards having channel bandwidth range of about 30 kHz to about 5 MHz (page 4 table 1).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify combination system as taught by Kimata and Mansfield to provide the following: cellular standard having channel bandwidth of 30 kHz to 5 MHz as the arrangement would enable the system to work with major cellular standards (AMPS, TDMA...) as taught by Teo.

11. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimata in view of Reudink et al. (PAT US 6,621,454 B1 filed 05-10-2001, hereinafter Reudink).

Kimata does not teach the following: the transmission of data is inhibited by transmitting bits other than bits of data.

However Reudink teaches a wireless communication system that transmits null data when interference is detected which teaches the following: the transmission of data is inhibited by transmitting bits other than bits of data (Abstract).

Thus it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Kimata's system to provide the following: the transmission of data is inhibited by transmitting bits other than bits of data as taught by Reudink.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai Vu whose telephone number is 703-305-3417. The examiner can normally be reached on 9:00AM-6:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-3900. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melur Ramakrishnaiah

MELUR RAMAKRISHNAIAH
PRIMARY EXAMINER

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